REMARKS

Applicant appreciates the Examiner's thorough examination of the subject application and requests reconsideration of the subject application based on the foregoing amendments and the following remarks.

Claims for 1-10 are pending in the subject application.

Claims 1-10 stand rejected under 35 U.S.C. §102 and/ or 35 U.S.C. §103.

Claim 1 was amended for clarity and claim 4 was amended for clarity and also to more distinctly claim Applicant's invention. Claims 2, and 5-6 were amended to be consistent with the language of amended claims 1 and 4.

Claim 8 was canceled and the limitations thereof were added to claim 7. Claim 9 was amended so as to depend from claim 7 and also to be consistent with the language of amended claim 7.

Claims 11-14 were added to more distinctly claim embodiments of the present invention and claims 15-16 were added to more distinctly claim the inventions of claims 1 and 3.

The amendments to the claims are supported by the originally filed disclosure.

The specification was objected to and correction required. The drawing figures were objected to and correction required. The specification was amended to address the Examiner's objections and/or rejections. An amended drawing figure is being submitted herewith to address the drawing objections. The amendments to the specification/ drawing figures do not introduce new matter because they either are editorial in nature or are supported by the originally filed disclosure.

35 U.S.C. §102 REJECTIONS

The Examiner rejected claim 4 under 35 U.S.C. §102(b) as being anticipated by Campbell [USP 5,611,024]. Applicant respectfully traverses as discussed below. Because claim 4 was amended in the instant amendment, the following discussion refers to the language of the amended claims. However, only those amended features specifically relied upon to distinguish the claimed invention from the cited prior art shall be considered as being made to overcome the cited reference.

Applicant amended claim 4 in the foregoing amendment so as to provide that "wherein based upon the judgment by the judgment section, the image-processing control section controls the storage of the processed image data so as to allow the processed image data to be stored in storing areas in which the stored image data was originally stored." In view of admissions contained in the above referenced Office Action regarding claims 1, 5 and 8 for example, Applicant thus believes that claim 4 is not anticipated by the cited reference.

Applicant also would note that Campbell discloses and teaches that uncompressed data stored in an image memory 102 is compressed, and the compressed data is again stored in the image memory 102. See column 7, lines 10-14 thereof. However, Campbell does NOT disclose or teach that as a result of comparison between the processed image data and an empty storing area, the image data is stored in the empty storing area if the area is sufficient for storing the same, while the image data is stored in the storing area where the image data was originally stored, if the empty storing area is not sufficient in storing the same. These characteristics of the present invention

brings about an effect that positions of stored data are in many cases lined up in a consecutive manner without dispersion, thereby increasing the processing speed. This capability and operation is nowhere described, taught or suggested in Campbell.

As provided in MPEP-2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Or stated another way, "The identical invention must be shown in as complete detail as is contained in the ... claims. *Richardson v Suziki Motor Co.*, 868 F.2d 1226, 9 USPQ 2d. 1913, 1920 (Fed. Cir. 1989). Although identify of terminology is not required, the elements must be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990). It is clear from the foregoing remarks that the above identified claims are not anticipated by the cited reference.

It is respectfully submitted that for the foregoing reasons, claim 4 is patentable over the cited reference and satisfy the requirements of 35 U.S.C. §102(b). As such, this claim as well as the claims dependent therefrom, is allowable.

35 U.S.C. §103 REJECTIONS

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Campbell [USP 5,611,024] alone or in combination with other prior art references for the reasons provided on pages 2-7 and 9-17 of the above-referenced Office Action. As indicated above, claim 8 was canceled and limitations thereof added to claim 7. As such, applicant does not believe that the within rejection of claim 8 does not need to be addressed further herein. Because

claims were amended in the foregoing amendment, the following discussion refers to the language of the amended claim(s). However, only those amended features specifically relied on in the following discussion shall be considered as being made to overcome the prior art reference. The following addresses the specific rejections provided in the above-referenced Office Action.

CLAIMS 1, 5, 7, 8

Claims 1, 5, 7 and 8 stand rejected as being unpatentable over Campbell in view of Ishida [JP 4-88571] for the reasons provided on pages 2-4 and 9-13 of the above referenced Office Action. As indicated above, Applicant does not believe that the within rejection of claim 8 needs to be addressed further herein.

As grounds for the rejection of claim 1, the Office Action asserts that Campbell discloses the invention substantially as claimed, in particular that Campbell discloses a judgment section, which makes a judgment as to whether or not an empty storing area in the storing section is sufficient for storing the processed image data. In particular it is asserted that step 668 of the routine of figure 6C shows a determination of whether or not an empty storing area in the storing section is sufficient for storing the processed image data.

The Office Action also admits that Campbell does not disclose that if the judgment section determines that the empty storing area is insufficient, the image-processing control section allows the processed image data to be stored in storing area in which the stored image data was originally stored. It is further asserted that Ishida discloses overwriting new data on old

base data and that it would have been obvious to one skilled in the art to allow the image processing section of Campbell's system to overwrite newly processed data as described by Ishida, if it is determined by Campbell's judgment section that the storing area has insufficient memory for storing the newly processed data. Applicant respectfully traverses.

Applicant claims, claim 1, an image-processing apparatus including a storing section having a storing area for storing image data that has been compressed and divided and an image-processing control section. The image-processing control section combines and decompresses stored image data in the storing section; then carries out an image processing on the image data; and again stores the processed image data that has been compressed and divided in the storing section.

Further, the image-processing control section includes a judgment section that makes a judgment as to whether or not an empty storing area in the storing section is sufficient in storing the processed image data. Also, upon a judgment by the judgment section that the empty storing area is insufficient to store the processed image data, the image-processing control section controls the storage of the processed image data so as to allow the processed image data to be stored in storing areas including the storing areas in which the stored image data was originally stored.

Campbell discloses a method and system for storing compressed bit map images in a laser printer. As indicated in col. 15, lines 5-10 of Campbell, if sufficient room does not remain in the destination block 402 to store the data remaining in the ring buffer 404, and any housekeeping space, then a sequence of steps shown in Fig. 6C, are executed in an effort or attempt to obtain an additional destination block. If the get buffer routine at step 670 **cannot** return an additional buffer, Campbell further provides that step 672 returns unsuccessfully from the compression routine 104.

Campbell further describes that the interpreter/ rasterizer 100 then takes whatever steps are appropriate for *an out of memory situation.* The discussion that follows indicates that commercial PDL interpreters typically handle this situation by failing to print and then returning an error code to the host computer. The other described action, basically amount to an attempt to reduce the amount of image data that would be generated (e.g., reducing print density), thereby reducing the amount of memory that would be needed to perform the print job.

As to Ishida, this reference indicates that a PDL system is formed on the basis or concept of overwriting, that is the concept of overwriting new data onto old base data. Ishida also indicates (see page 2 of the translated material for Ishida reference) that the application of PDL to compressed memory was considered to be difficult because of the reasons enumerated on page 2 of the translated materials.

The system described in Ishida involves the automatic overwriting of the old processed image data with the new data, except for the case where the data is not completely storable in the memory area of the corresponding block cluster within the compressed memory. Ishida then describes a process (see pages 2-4 of the translated materials) for dealing with the situation where the code length exceeds the fixed block length. It is described that with respect to the amount of code that exceeds the fixed block length, its data is maintained in a plurality of fixed length blocks in a bridging manner. Moreover, it is clear that, such determination is being made during the decoding process.

In sum, Campbell describes an apparatus embodying one technique for storing compressed data in empty areas of a storing section whereas Ishida describes an apparatus embodying another

and different technique where information is automatically overwritten regardless of the status or availability of other memory. There is no suggestion in either reference to modify the apparatus that used the technique for storing compressed data in empty areas of a storing section so that in the case where the memory is found to be insufficient, a process is implemented whereby the processed image data is stored in the area(s) or blocks containing the pre-processed image data. It also is clear that there is no suggestion in either reference that if Campbell was modified so as to operate in the manner taught and disclosed in the subject application, that the so-modified apparatus would be reasonably successful. It should be noted that such a modification is contradictory to the suggested courses of action described in Campbell for dealing with the out of memory or insufficient memory situation.

In addition, Applicant would note that Campbell discloses and teaches that uncompressed data stored in an image memory 102 is compressed, and the compressed data is again stored in the image memory 102. See column 7, lines 10-14 thereof. Ishida also discloses a device that is arranged so that data in a block cluster of compressed memory is read out, decoded, converted in accordance with command data from the host, and consequently overwritten on the original data position (block cluster) and compressed. If the amount of data increases due to the conversion and cannot be stored, the device obtains a block cluster area for storing the rest of data. See page 3, line 23 to page 4, line 6 thereof.

These cited references, however, do NOT teach nor suggest that as a result of comparison between the processed image data and an empty storing area, the image data is stored in the empty storing area if the area is sufficient for storing the same, while the image data is stored in the storing

area where the image data was originally stored, if the empty storing area is not sufficient in storing the same. It also is submitted that these cited references also thus can not include any teaching, suggestion nor offer any motivation for modifying the apparatus described in Campbell so as to yield the image-processing apparatus of claim 1. These characteristics of the present invention brings about an effect that *positions of stored data are in many cases lined up in a consecutive manner without dispersion,* thereby increasing the processing speed.

Further, and in contrast to the present invention, Ishida *always stores* the decoded data *in the area where the original image data was stored.* For this reason, when the data after the conversion is larger than the original image data, such data is stored in an area different from the area where the original image data was stored. This results in the dispersion of the areas storing the data.

Moreover, the assertion to combine the references is done without regard to the fact that the suggested modification changes the way in which the apparatus in Campbell was intended to operate. Namely, when the out of memory situation arose in Campbell that system defaults to any of a number of course of action that are dictated by the interpreter not by the particular technique used for storing the data. It should be noted that Campbell specifically states that in an out of memory situation, the process returns unsuccessfully from the compression routine. There also is nothing in Ishida that would suggest to one skilled in the art, to modify the storing technique disclosed in Campbell so as to use a different technique in the case where the empty storage areas are insufficient to handle the amount of data that needs to be stored even though Campbell says to

fail the compression routine. Such disclosure is only found in the subject application and nowhere else.

As provided in MPEP 2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As provided above, the references cited, alone or in combination, include no such teaching, suggestion or motivation.

Furthermore, and as provided in MPEP 2143.02, a prior art reference can be combined or modified to reject claims as obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 19866). Additionally, it also has been held that if the proposed modification or combination would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Further, and as provided in MPEP-2143, the teaching or suggestion to make the claimed combination and the reasonable suggestion of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As can be seen from the forgoing discussion regarding the disclosures of the cited references, there is no reasonable expectation of success provided in the reference(s). Also, it is clear from the foregoing discussion that the modification suggested by the Examiner would change the principle of operation of the device disclosed in the Campbell.

As provided in MPEP-2145 (XD) a prior art reference that "teaches away" from the claimed invention is significant factor to be considered in determining obviousness. It also is provided therein that the totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of non-obviousness. *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986).

As the USPTO Board of Patent Appeals and Interferences has held, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without benefit of appellant 's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ351, 353 (BD. Pat. App. & Inter. 1984).

It is respectfully submitted that the foregoing remarks also apply to distinguish claims 5 and 7 from the cited combination of references.

It is respectfully submitted that claims 1, 5 and 7 are patentable over the cited reference(s) for the foregoing reasons.

CLAIMS 2, 6, 9

Claims 2, 6 and 9 stand rejected as being unpatentable over Campbell in view of Ishida and further in view of Fall [USP 5,991,515] for the reasons provided on pages 4-5, 10 and 13-14 of the above referenced Office Action. Applicant respectfully traverses.

Each of claims 2 and 9 depend respectively from claims 1 and 7. As indicated above, claims 1 and 7 are distinguishable from the combination of Campbell an Ishida. As such, at least because of their dependency from a base claim believed to be allowable, each of claims 2 and 9 also are thus considered to be allowable.

Claim 6 depends from claim 4, which claim also is believed to be allowable for the reasons set forth in the foregoing discussion regarding claims, 1, 5 and 7. As such, at least because of its dependency from a base claim believed to be allowable, claim 6 also is thus considered to be allowable.

Applicant would note that the tertiary reference, Fall, is being used for a limited purpose, namely to suggest the further limitations of claims 2, 6 and 9. It necessarily follows that Fall cannot thus overcome the shortcomings and deficiencies noted above regarding the principal and secondary references.

It is respectfully submitted that at least for the foregoing reasons each of claims 1, 5 and 7 are patentable over the cited reference(s) for the foregoing reasons.

CLAIM 3

Claim 3 stands rejected as being unpatentable over Campbell in view of Takaoka [USP 5,703,967] for the reasons provided on pages 5-7 of the above referenced Office Action.

As grounds for the rejection, the above-referenced Office Action provides that Campbell discloses the invention substantially as claimed except that Campbell does not disclose an apparatus that includes a combining process for main image data and sub-image data, and that

the preprocessing include a process for adding a blank section to the main image data to which the sub-imaged data is inserted. It is further asserted that Takaoka discloses such a process. Thus, the Office Action asserts that it would have been obvious to one skilled in the art to modify the apparatus disclosed in Campbell based on the teachings of Takaoka so as to yield the invention as set forth in claim 3. Applicant respectfully traverses.

The disclosure in Takaoka is not directed to the process for storing data, but rather relates to the process for transmitting image data using the facsimile process from one location to another location. For a color image composed of a color image portion and a binary image portion, Takaoka teaches that the data about the color image portion and the data about a binary image portion are separated from each other by the positional data so each are properly compressed and transmitted. It also is explained that the positional data about the two image portion are transmitted before the multi-level color image portion and the data portion are transmitted.

In sum, Takaoka discloses a facsimile transmission technique and not a technique for storing data where in a pre-processing mode, a blank section is added so that the sub-image data can be later inserted during the image processing combining process.

It is respectfully submitted that claim 3 is patentable over the cited reference(s) for the foregoing reasons.

CLAIM 10

Claim 10 stands rejected as being unpatentable over Campbell in view of Takaoka [USP 5,703,967] and further in view of Takemoto [USP 5,841,547] reasons provided on pages 14-17 of the above referenced Office Action. Applicant respectfully traverses.

Claim 10 depends from claim 3. As indicated above, claim 3 is distinguishable from the combination of Campbell and Takoaka. As such, at least because of its dependency from a base claim believed to be allowable, claim 10 also is considered to be allowable.

Applicant also would note that Takemoto is being asserted for allegedly for disclosing the further limitation of claim 10. As such, it necessarily follows that Takemoto cannot overcome the above-noted shortcoming of the principal and secondary references.

It is respectfully submitted that claim 10 is patentable over the cited reference(s) for the foregoing reasons.

It is respectfully submitted that for the foregoing reasons, claim(s) 1, 3-7 and 9-10 are patentable over the cited reference(s) and thus satisfy the requirements of 35 U.S.C. 103. As such, these claims are allowable.

CLAIMS 11-16

As indicated above, claims 11-14 were added to more distinctly claim embodiments of the present invention and claims 15-16 were added to more distinctly claim the inventions of claims 1 and 3. These claims are clearly supported by the originally filed disclosure, including

the originally filed claims. It also is respectfully submitted that these added claims are patentable over the cited prior art on which the above-described rejection(s) are based.

SEPCIFICATION OBJECTIONS

The Examiner objected to the specification of the subject application, including the TITLE and requested correction thereof. The following addresses the specific objections of the Examiner.

TITLE

The Examiner objected to the TITLE as not being descriptive of the invention being claimed and requested correction. The TITLE has been amended in the instant amendment to address the Examiner's objections. As such, the TITLE, as amended, is considered acceptable.

OTHER

The Examiner objected to the specification for the reasons provided on page 2 of the above-referenced Office Action. The specification was amended as suggested by the Examiner.

It is respectfully submitted that for the foregoing reasons, the specification satisfies applicable Patent laws and rules and, therefore is considered acceptable.

DRAWING OBJECTIONS

The Examiner objected to the drawing figures for the reasons provided on page 2 of the above-referenced Office Action.

Attached herewith is a replacement sheet including Fig. 4 in which the drawing figure was amended so as to delete reference numerals 603a, 603b so as to address the Examiner's objections. As such the as-amended drawing figure is considered acceptable.

OTHER MATTERS

Applicant filed a Supplemental Information Disclosure Statement date July 23, 2003 in the USPTO, which IDS pre-dates the above-referenced Office Action. Accordingly, Applicant respectfully requests that the Examiner reflect their consideration of this IDS in the next official communication from the USPTO. Applicants also respectfully request the Examiner to call the undersigned collect and the below number in the event that this IDS has not been received by the Examiner and thus needs to be again submitted by Applicant for the Examiner's consideration.

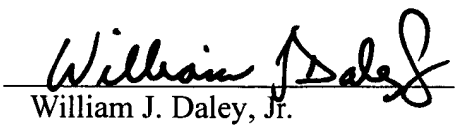
It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

Although claims were added to the subject application, Applicant believe(s) that additional fees are not required. However, if for any reason a fee is required, a fee paid is

inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,
Edwards & Angell, LLP

Date: March 29, 2004

By: 

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